
Appendix

Technology Areas for HCS WG

High Confidence Computing

- ▼ **Fault tolerant, secure hardware and operating systems**
- ▼ **Access control**
- ▼ **Fault tolerance mechanisms and systems**
- ▼ **User and system-served encryption mechanisms**
- ▼ **Secure, trusted agents**
- ▼ **Secure data base systems**

High Confidence Networking

- ▼ **Dynamically secure enclaves**
- ▼ **Electronic encryption key management and certificate authority mechanisms**
- ▼ **Robust firewalls**
- ▼ **Secure mobile interfaces**
- ▼ **Interoperable, verifiable, robust adaptive protocols**
- ▼ **Robust and secure middleware services**
- ▼ **Secure network services, including security support for distributed computing**
- ▼ **Commercially-compatible security protocols and link encryptors**

Encryption, Assurance & Integration

- ▼ **Specification**
- ▼ **Formal methods to reason about composition of components and software**
- ▼ **Advanced algorithm development**
- ▼ **Hardware and software key escrow techniques**
- ▼ **Public key systems**
- ▼ **Personal identification systems**
- ▼ **Tools for designing, integrating and evaluating systems**
- ▼ **Verifiable component libraries**
- ▼ **Wrapper generation to transform legacy systems into high confidence systems**
- ▼ **Security packaging, encapsulation, and tamper-proof techniques**
- ▼ **Information security technologies**

Large Scale Systems

- ▼ **Metaphors, models and metrics**
- ▼ **Analysis and simulation**
- ▼ **Adaptive architectures and structured software engineering**
- ▼ **Intrusion detection**
- ▼ **Decoys and honeypots**
- ▼ **Techniques for variability**
- ▼ **Public Key infrastructures; architectures and intercommunity mechanisms**
- ▼ **Metasystems for protection of Information Infrastructures**
- ▼ **Privacy mechanisms for Public Health**

Testing Methodologies and Techniques

- ▼ **Testbeds and Red Teams**
- ▼ **Automated test generation and Formal Methods**
- ▼ **Evaluation and Testing Centers**
- ▼ **Emergency response technology**
- ▼ **Distributed alerts, system diagnostics and intrusion prevention and response**
- ▼ **Security assurance, certification, accreditation metrics and mechanisms**